UNIVERSITY OF GONDAR

COLLEGE OF MEDICINE AND HEALTH SCIENCES

DEPARTMENT OF MIDWIFERY

PREVALENCE AND ASSOCIATED FACTORS OF STILL BIRTH AMONG WOMEN WHO GAVE BIRTH AT GONDAR UNIVERSITY HOSPITAL AMHARA NATIONAL REGION, NORTH WEST ETHIOPIA.

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ABBREVIATIONS

CI – Confidence Interval

AOR **-** adjusted odd ratio

CS – Caesarean Section

EDHS – Ethiopian Demographic and Health Survey

FMOH – Federal Ministry of Health

OR – Odds Ratio

PROM – Premature Rupture Of Membrane

SD- Standard Devation

SVD – Spontaneous Vaginal Delivery

UAE – United Arab Emirates

WHO – World Health Organization

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Abstract

INTRODUCTION*:* **-** still birth defined as a baby born with no signs of life at or after 28 weeks' gestation. Stillbirth rate is an important indicator of access to and quality of antenatal and delivery care. Improving maternal health is a global priority which is particularly relevant in developing countries including Ethiopia.

OBJECTIVE: To assess prevalence and associated factors of still birth among women who gave birth at Gondar university hospital Amhara national region, North West Ethiopia.

METHODS: Institution-based Cross sectional study conducted using systematic random sampling from Nvember first to December 30, 2014. Data was entered into a computer by using Epi-Info version 3.5.1 and analyzed using SPSS version 22 for windows. Frequencies, means, tables and graphs were used to present data. Logistic regression analysis was used in order to identify the association between predictor variables and dependent variable and to control confounders.

RESULT: Of 317, study participants 18(5.7) were still birth.The mean age of a women 28.6 with standard deviation (SD) (±5) and the mean gestational age was 39.06 with SD (2.14). Educational status of secondary and above AOR=0.10; 95% CI (0.01-0.86) and women who had at least one exposure of obstetric complication AOR= 6.6; 95% CI (2.26-19.42) were found to be significantly associated with still birth.

CONCLUSION AND RECOMMENDATION: The prevalence of still birth among mothers who gave birth in Gondar University Hospital was high. Maternal, newborn and child health service better to improve with achievements of educational status and educating pregnant mothers about danger signs of pregnancy (obstetric complication).

1.0 INTRODUCTION

1.1 STATEMENT OF THE PROBLEM

Still birth :the definition recommended by WHO for international comparison is a baby born with no signs of life at or after 28 weeks' gestation. In 2009 there were over 2.6 million stillbirths globally, with more than 8200 deaths a day. The majority of these deaths occur in developing countries. Ninety-eight percent occurred in low- and middle-income countries. At least half of all stillbirths occur in the intrapartum period, representing the greatest time of risk. Intrapartum deaths account for 45% of third-trimester stillbirths globally but only 14% of third-trimester deaths in developed countries(1).

Poorly spaced pregnancies have been documented worldwide to result in adverse maternal and child health outcomes (2).
An estimated 11 million children aged less than five years die yearly, with 99 percent of the deaths occurring in developing countries(3). Evidence showing a relationship between shorter birth intervals and high infant and child mortality has been established globally(3, 4). In addition, extant evidence shows that closely spaced pregnancies are linked to low birth weight, intrauterine growth retardation, preterm delivery and infant mortality(5). Longer intervals have been proven to reduce fertility and consequently result in beneficial effects on population size(2).
Studies that have been conducted of the relation between short and long interpregnancy intervals and adverse perinatal outcomes, no definitive conclusions could be drawn because of methodological constraints or because the number of women studied was small(3)

Though, the time period (risk period) of inter-pregnancy interval to adverse perinatal outcome is not specifically isolated and suggested yet, different studies showed that inter-pregnancy interval is one of the determinant factors for preterm birth, low birth weight, small for gestational age births and stillbirth(6). Knowing the association of

inter-pregnancy interval to those adverse perinatal outcomes will help the primary prevention employed against it to be easy, safe and cost effective(7).

In Ethiopia, 20% of non-first births occur less than 24 months after the preceding birth, with 8% occurring less than 18 months after the preceding birth. About 43% of women give birth at least 36 months after the previous birth. The overall median birth interval is 34 months. Pregnancies that occur at less than a 15-month interval are at more than three times the mortality risk of pregnancies that occur after long intervals(8).

One study done at Tikur Anbessa and St. Paul's hospital on the impact of spacing on outcomes of pregnancy has shown that conceiving within 12 months of previous delivery is a critical interval to cause low birth-weight baby. Short inter-pregnancy interval together with other Sociodemographic factors is responsible for unfavorable birth outcomes(9)

Reducing perinatal mortality is a global priority which is particularly relevant in developing countries including Ethiopia(1).

Perinatal mortality is one of the indicators of poor obstetric care of a given community. This care might be explained either in the form of counseling, health education or technical capabilities. It is generally influenced by prenatal and intrapartal conditions. The most common fetal conditions that lead to perinatal death include congenital anomalies, Intra Uterine Growth Restriction (IUGR) and sepsis(1, 10). Early neonatal death, which attributes to most perinatal deaths, is caused by preterm birth and low birth-weight(11) .Worldwide 7.6 million perinatal deaths occur annually; of which 98% take place in developing countries.

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1.2. LITERATURE REVIEW

1 **STILLBIRTH**

The causes of still birth can broadly be grouped into placental problems, birth defects, IUGR, and infection(12, 13) Stillbirth rate is an important indicator of access to and quality of antenatal and delivery care. Stillbirth prevalence at community level is typically less than 1% in more developed parts and could exceed 3% in less developed regions(14).

Worldwide stillbirth rate has declined by 14%, from 22.1 stillbirths per 1000 births in 1995 to 18.9 stillbirths per 1000 births in 2009. But in the African region, there was only an annual decline of less than 1%. The stillbirth rate for developed countries is estimated between 4.2 and 6.8 per 1000 births, whereas for the developing world, the estimate ranges from 20 to 32 per 1000 births. Two thirds of all stillbirths occur in just two regions: South-East Asia and Africa(14, 15). In sub-Saharan Africa, an estimated 900,000 babies die as stillbirths. It is estimated that babies who die before the onset of labor, or ante partum stillbirths, account for two-thirds of all stillbirths in countries where the mortality rate is greater than 22 per 1,000 births(16). From previous studies, preterm birth, increasing maternal age, history of stillbirth, reported hypertension, extremes of neonatal birth weight, cesarean delivery, operative vaginal delivery, and assisted breech delivery were all significantly associated with stillbirth(17).

The role of inter-pregnancy interval on stillbirth remains controversial. One study in Sweden showed that maternal characteristics have confounded the association between short inter pregnancy interval and stillbirth. Other studies showed that women with inter-pregnancy intervals longer than 71 months were associated with increased risk of still birth (8) A study in Latin America reported that spacing pregnancy could appropriately prevent stillbirth and neonatal death (12)

According to EDHS 2011, spacing children at least 36 months apart reduces the risk of infant death. In Ethiopia, the median birth interval is 34 months. Infants born less than two years after a previous birth have particularly high under-five mortality rates (179 deaths per 1,000 live births compared with 72 deaths per 1,000 live births for infants born three years after the previous birth(18). A study done at Tikur Anbessa has shown that stillbirth rate of 53.3/1000 births and contributed to 77.2% of gross perinatal mortality (13). The Ethiopian DHS 2005 data indicated that the stillbirth rate is 1.8 %(19).

Study done on trend of perinatal mortality in ten Ethiopia hospitals shows that the perinatal mortality rate per 1000 births was 46 in 2009-2011 which is higher than other sub-saharan Africa Countries . In the national health facility based study, however, the stillbirth rate (42/1000 total births) (20).

Systematically review and meta-analyse studies on the association between pregnancy intention and antenatal care reviewed the evidence on the association between pregnancy intention and antenatal health care, specifically on timely initiation of antenatal care and receipt of adequate antenatal care had significantly associated with still birth. This analysis was restricted to the effects of pregnancy intention on maternal health-care seeking behaviour, as measured by timely initiation of ANC and receipt of adequate ANC (3). Study done on adverse birth outcomes among deliveries shows that , gestational age was predictor of stillbirth; those preterm newborns were about six folds more likely to be born as a stillbirth. The over prevalence of still birth was 7.1%.A risk factors like preterm birth, low birth weight, ante partum haemorrhage (APH), hypertension, history of perinatal death, lack of ANC follow up and large family size (>5) were significantly and independently associated with still birth(20).

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3.1 JUSTIFICATION OF THE STUDY

The forth Millennium Development Goal (MDG) aims to improve child and infant health with a target of reducing under-five mortality at the rate of 5.2 per 1,000 live births Each year between 1990 and 2015.

The vast majority of still births are from treatable or preventable complications of pregnancy and childbirth.

Identified the still birth rate significantly reduces the risk of maternal mortality and it helps to improves maternal health.

Even though some studies were done there was limited evidences found to be on the prevalence and associated factors on still birth.

Therefore, the information obtained will help to quantify the magnitude of still birth & to identify factors associated with it.

Serve as an important tool for any possible interventions aimed at improving the perinatal mortality.

In Ethiopia, high proportion of short birth interval, high rate of preterm, low birth weight, and stillbirths were reported. There is scarcity of studies conducted investigating the association and prevalence of still birth among women who gave birth at Gondar university hospital.

This study will also serve as a baseline study to conduct other analytical studies in the topic.

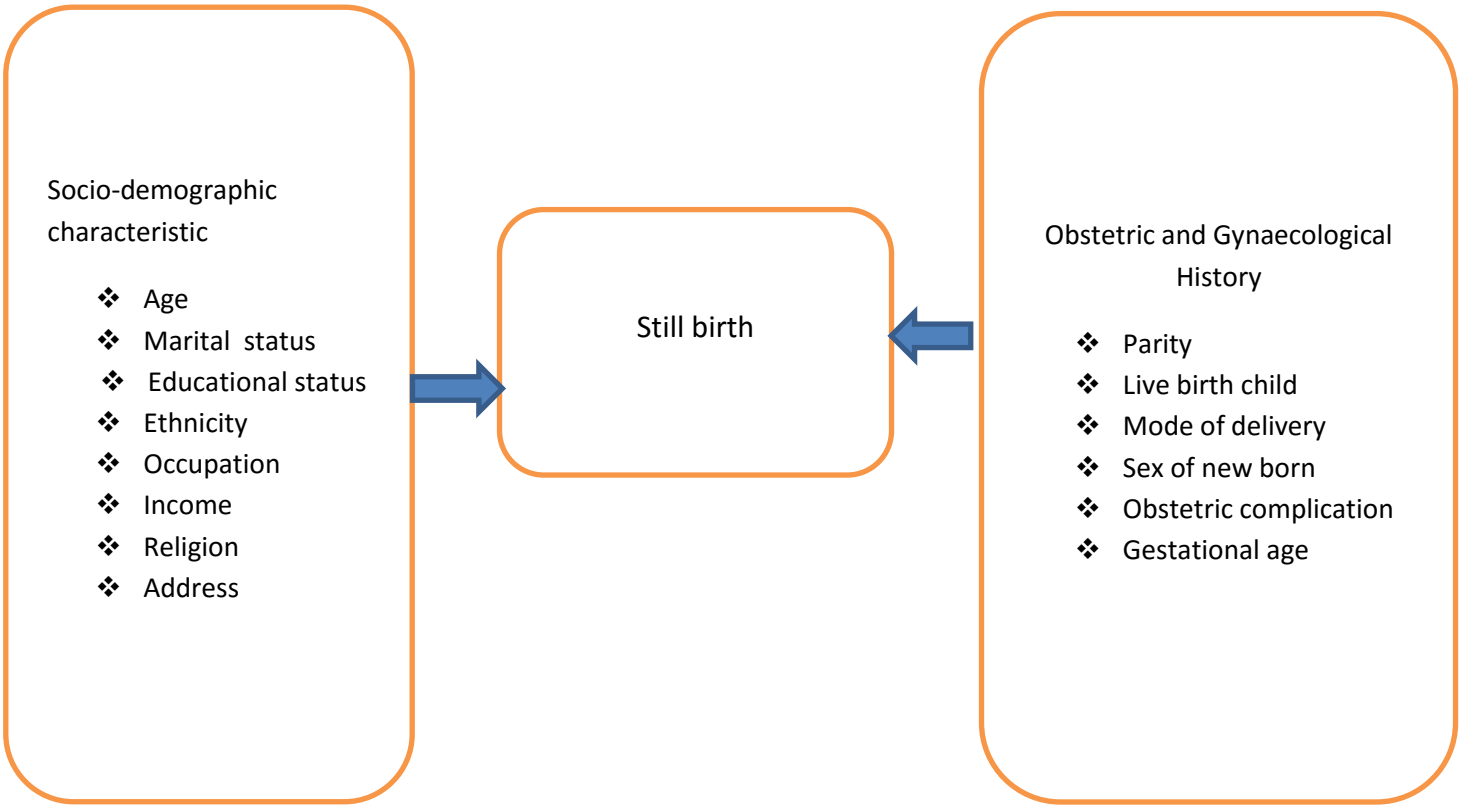

Figure 1:- conceptual frame work for still birth and independent variables.

2. OBJECTIVES

2.1 GENERAL OBJECTIVE

To assess the prevalence and associated factors of still birth among women who gave birth at Gondar university hospital

SPECIFIC OBJECTIVE

To determine prevalence of still birth among women who gave birth at Gondar university hospital

To identify factors associated with still birth among women who gave birth at Gondar university hospital

3. METHODS

3.1 STUDY DESIGN

Institutional based quantitative cross-sectional study was conducted at Gondar university Hospital.

3.2 STUDY AREA AND PERIOD

The study was conducted at Gondar university Hospital from November first - December 30; 2014.Gondar town is located 730 Km far from the capital city of Ethiopia, Addis Ababa, and 180km from Bahirdar a capital city of Amhara National Regional State. Its population are 153,942(71,886 male and 82,056 female). Female in reproductive age groups are 43,067.

In this town there are totally 13 health institutions, those are giving maternal and child health care which is eight health center ,two Governmental Hospitals, one private Hospital and two private higher clinics.

3.3 SOURCE POPULATION

All mothers came to Gondar university hospital to give birth.

3.4 STUDY POPULATION

All mothers who gave birth at Gondar university Hospital during the study period.

3.5. INCLUSION AND EXCLUSION CRITERIA

3.5.1 INCLUSION CRITERIA

All mothers gave birth at Gondar university Hospital during the study period after 28 weeks of completed gestational age

3.5.2 EXCLUSION CRITER

Unable to respond and seriously ill patient during data collection time were excluded.

3.6 SAMPLE SIZE DETERMINATION

The required sample size was determined by using a single population proportion formula.

$$n = \frac{Z^2 \alpha/2 \times p(1-p)}{D^2} = \frac{1.96^2 \times 0.031 \times 0.969}{(0.002)^2} = 288$$

n=288

Assumptions;

n=the number of mothers interviewed

P=the proportion of still births by assuming similar to a research done in Addis Ababa

Z= the standardized normal distribution value at the 95% CI, which is 1.96

D= the Margin of error, taken as 2 %.

The Magnitude of still birth was 3.1% taken from a research done in Addis Ababa. Therefore, (p = 0.031).

By adding the expected 10 % non-response rate of the total sample size became 317

3.7 SAMPLING PROCEDURE

Systematic random sampling technique was used to select the study participants among women's who gave birth at university of Gondar hospital in maternity ward during the data collection time since Nov first till December 30/2014. The average delivery per year, month, week and day at Gondar university hospital are 5760, 480,120 and 16 respectively .data was collected From all women who gave birth throughout the day and night time during two month study period every k^{th} value (3) according to their sequence of birth was included in the study.

3.8 VARIABLES

3.8.1 DEPENDENT VARIABLE

Still birth (Yes =1, No=2)

3.8.2 INDEPENDENT VARIABLE

Socio-demographic client factor includes: - age, gravidity and, parity, Marital status, income, occupation, educational status, ethnicity

Obstetric and gynecological history of client: - last place of delivery, Gestational age, Last normal menstrual period, pervious c/s, number of still birth and live birth, history of abortion , weight of the new born, sex of the baby, APH,PPH

3.9 OPERATIONAL DEFINITIONS

STILL BIRTH: - Absence of breathing, heart beats, pulsation of the umbilical cord, or definite movements of voluntary muscles in late pregnancy period from completed weeks of 28 Gestational ages up to delivery

LIVE BIRTH:-The complete expulsion or extraction of the product of conception from the mother, regardless of the duration of pregnancy, which after such a separation, breathes or shows other evidence of life (e.g. Beating of the heart, pulsation of the umbilical cord or definite movements of the involuntary muscles) whether or not the cord has been cut or placenta detached.

TERM (MATURE INFANT:-Infant born after 37 completed weeks of gestation up until 42 completed weeks of gestation.

PREMATURE INFANT: - One with a gestational age of 28 weeks to less than 37 weeks.

ABORTION:-Fetus removed or expelled from the uterus in 28 weeks or less and weighing less than 1000 gram.

LAST MENSTRUAL PERIOD: - The date of the starting of last menstruation the women had to the index pregnancy.

OBSTETRIC RISK FCTORS: - Mother had at least one cause of obstetric complication including obstructed labor, prolonged labor, APH, PIH, polyhaydraminous, oligohaydraminous, IUGR, post term pregnancy, preterm pregnancy.

3.10 DATA COLLECTION TOOLS

Structured questionnaire was prepared and utilized after reviewing relevant literatures. The questionnaire was prepared in English and then translated to Amharic then back to English .To check its consistency, it was back translated to English by an expert of both languages. After extensive evaluation, final version of the questionnaire was developed. Data was collected by using a pre-tested questionnaire adopted after literature reviews.

3.11. DATA COLLECTION PROCEDURE

All laboring mothers who fulfilled inclusion criteria were interview by using pre- tested well-structured questionnaire.

3.12 DATA QUALITY CONTROL

To assure the quality of the data, technical training was given before data collection for data collector's .Data collectors were given two days training on the content of the questionnaire and how to collect the data. Pretest was given for 5% of sample size for accuracy of assessment tools in similar population of one governmental Hospital other than study area.

After data collected from each respondent were checked for completeness, clarity and consistency by principal investigator and supervisor immediately at the end of each data collection day. There are two data collectors and one supervisors including principal investigator. The data was collected by health science student's .The filled Questionnaire was collected and signed by supervisor after it was checked for any missing value, correctness and consistency.

3.13 DATA PROCESSING AND ANALYSIS

Data was entered, cleaned and analyzed by using EPI and SPSS computer software programs. About sixteen (5%) questionnaires was selected at random and checked for data entry error, missing value or any inconsistency.

Recoding and transformation of some data was done

Significance was determined using crude and adjusted odds ratio with 95% confidence intervals. To assess the association between the different predictor

variables of still birth with the dependent variables, first binary relationships between each independent variable and outcomes were investigated using a binary logistic regression model. All variables there P- value less than 0.2 were included in the multiple logistic regression models. The results were presented in the form of tables, figures and summary statistics.

4.0 ETHICAL CONSIDERATION

Ethical clearance was obtained from Institutional Review Board (IRB) of University of Gondar, department of midwifery. Verbal informed consent was obtained from each study participants. Each respondent was informed about the objective of the study that it contribute to improve still birth. Involvement in the study was after their complete consent was obtained. Study participants were informed that all data obtained from them would be kept confidential by using codes instead of any personal identifiers and is meant only for the purpose of the study. Health education on pregnancy and delivery related complication, and the benefits of giving birth in health institution was given for the participants during interview

5. RESULTS

5.1 Socio-demographic characteristic of study participants in Gondar University Hospital in 2014.

A total of 317 respondents were interviewed and making response rate 100%. .The majority of respondents were in the age range of 20-34 years 239 (75.4%) followed by age group 35 years and more 54(17%). The mean age of women was 28 (SD± 5) years, ranges from 18-42 years. The median age was 29 years. Two third of laboring mother 196(62%) were come from urban area .Based on educational status more than half 171(54%) were at the elementary level and least coverage 63(20 %) were at the level of secondary school and above educational level. Majorities were Amhara 293(92.4%) ethnics. Concerning to maternal status 260 (82%) were married, while the remaining 8(2.5%) where widowed. Majority of religion of the study participants were orthodox follower 207(65.3%) followed by Muslim 93(29.3%).

Majority of occupational level of study Participants were housewife187 (59%) followed Merchant 63(21%).Monthly income of respondent account 43% below 1500 Ethiopian Birr and 22% were above 2500 Birr (Table 1).

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Table 1:- Socio demographic characteristic of women who gave birth at Gondar University Hospital 2014.

VARIABLES(317)	FREQUENCY	PERCENTAGE
AGE		
<20	24	7.5
20-34	239	75.4
>=35	54	17.1
MARITAL STATUS		
Married	260	82
Divorced	30	9.5
Widowed	8	2.5
Single	19	6
ADDRESS		
Rural	121	38
Urban	196	62
EDUCATION		
Unable to read and write	83	26.2
Elementary school	171	53.9
Secondary school and above	63	19.9
MONTHLY INCOME IN BIRR		
<1500	137	43.2
1500-2500	109	34.4
>2500	71	22.4
RELIGION		
Orthodox	207	65.3
Muslim	93	29.3
Protestant	12	3.8
Catholic	5	1.6
ETHNICITY		

Amhara	293	92.4
Tigre	22	7
Oromo	2	0.6
OCUPATION		
Housewife	188	59
Employed	38	12
Merchant	67	21
Daily labourer	20	7
Student	4	1

5.2 Obstetric characteristic of study participants in Gondar University Hospital 2014.

Mothers who gave birth at Gondar University Hospital 18(5.7%) of birth outcome were still birth.

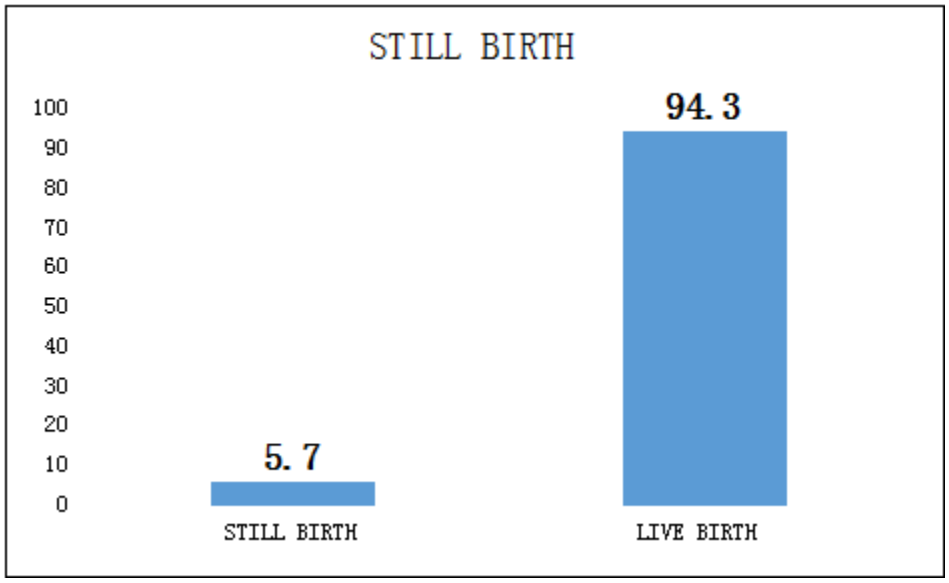

Figure 2:- the prevalence of still birth in Gonder University Hospital, 2014

Regarding to parity more than half of respondents 171(54%) were gave birth 2-4 birth and 63(20%) were gave birth five and more times .Of those participants 60(19%) and 126(40%) were gave birth with caesarean section and instrumental delivery respectively.

Gestational age of newborn were from 37- 42 weeks (Term birth) and post term pregnancy accounts about 23(7%) of deliveries. From study participants 103/32.5%) of women were had at least one exposure of obstetric complication (Table 2).

Table 2:- Current obstetric characteristic of women who gave birth at Gondar University Hospital 2014

VARIABLES (N=317)	FREQUENCY	PERCENTAGE
Parity		
1-2	83	26
3-4	171	54
>=5	63	20
Gestational age in weeks		
<37	75	23.7
37-42	219	69
>42	23	7.3
Sex of new born baby		
Male	133	42
Female	184	58
Mode of delivery		
c/s Instrumental SVD	60 126 131	19 39.7 41.3
Condition of current Pregnancy		
Planned, wanted and supported Unplanned	241 76	76 % 24 %
History of risk factors in current Pregnancy		
Yes=214	103	32.5%
No=103	214	67.5%

5.3 Factors associated still birth

Bi-variable and Multivariable analysis

Address, educational status, gestational age and exposure of at least one history of obstetric complication were significantly associated with still birth. Mothers who gave birth Living in urban area faces less likely to have still birth than counterparts with OR=0.38, 95%CI (0.14-0.99). Concerning to educational level, at elementary level , secondary and above were less likely to have still birth compered to prevalence of still birth for women who were unable to read and write with OR 3.74, 95I% CI (2.11-20.85) and OR 4.24,95%CI (2.32-27.95) respectively. (Table3)

In multiple logistic regressions address and gestational age were not significantly associated to occurrence of still birth. Educational status and experience of obstetric complication had significant association with still birth.

Regarding to educational status secondary school and above were 0.1 times less likely to have risk of having still birth than those who were unable to read and write OR, 0.1, 95%CI (0.01-0.88).Women who faced at least one obstetric complication have almost 7 times more likely rate of still birth than compared to those who had not any history of obstetric complication (OR=6.6, 95%CI=2.26-19.42). (Table 3)

Table 3: Bi-variable and Multivariable selected associated factors with still birth at Gondar university Hospital, 2014

Variables(N=317)	Still birth Yes (N=18/5.7%)	No (N=299/94.4%)	Crud OR(95% CI)	Adjusted OR(95%CI)
Address				
Urban	**7**	**187**	**0.38(0.14-0.99)**	**1.48(0.52-4.24)**
Rural	**11**	**112**	**1.0**	**1.0**
Educational status				
Unable to read and write	**10**	**73**	**1.0**	**1.0**
Elementary	**6**	**164**	**3.74(2.11-20.85)**	**0.45(0.16-1.27)**
Secondary and above	**2**	**62**	**4.24(2.32-27.95)**	**0.10(0.01-0.86)**
Gestational age in Weeks				
<37	**6**	**75**	**1.0**	**1.0**
37-42	**9**	**201**	**1.79(0.11-12.95)**	**0.54(0.18-1.57)**
>42	**3**	**23**	**0.61(0.35-6.16)**	**0.46(0.05-4.29)**
History of obstetric factors in current Pregnancy				
No=103	**13**	**90**	**1.0**	**1.0**
Yes=214	5	209	**6.03(2.09-17.43)**	**6.6(2.26-19.42)**

6. DISCUSSION

This institutional based study has attempted to assess prevalence and associated factors of still birth among women who gave birth at Gondar university hospital. In this study, eighteen (5.7%) were had still birth out of the total respondents and the main factors which were significantly associated with still birth were educational status and exposure of obstetric complication.

The prevalence of still birth observed in this study was 57/1000 live birth. it is higher than other sub-saharan Africa Countries 46/1000 live birth and ethiopia 42/1000 live birthThis much difference might be due to socio-cultural difference between the countries(5, 21).

This prevalence is higher than would be expected from a community based study since the study center is a tertiary hospital managing referrals from health centers and district hospitals. It is also higher than the previous reports from Nigeria, Zambia and a systemic review for sub-Saharan African studies where the prevalence of still birth ranged from 21-33/1,000 total births(8, 20).

Methodological and socio-economic variations explain differences in adverse birth outcomes(22).It could be also partially explained by variation in the study participants, for instance, the report from Zambia was limited to urban residents unlike the current study which included rural residents too.

It is also higher than the 2009 WHO African regional estimates of stillbirth rates (28.1/1,000 total births)(1, 15). However, this was a hospital based cross-sectional study unlike the WHO African regional estimates of stillbirth rates for communities. Most normal deliveries take place in health centers while more complicated ones are referred to the tertiary hospital contributing to higher rates of still birth at referral hospitals. Moreover, women who experienced obstetric complications were likely to had still birth

The rate of still birth in this study was all most consistent with other findings which says, the still birth rate in less developed countries could exceed 3%(8). But, much higher than the EDHS 2011 report which says 1.8%, also from other study had done in Ethiopia which reveals 1.9% still birth rate (14) and the Addis Ababa health bureau 1998 Ethiopian calandar report 2.5%(7).

This study uses primary data and there is no chance of under reporting. While in the Gondar university hospital case; it is a hospital where most complicated cases are referred to it as a result to get higher still birth rate in Gondar university hospital might not be strange thing, this study not used data from health centers and it will not dilute the still birth report from hospitals..

This study revealed that residence of the respondents and gestational age of the mother was not significantly associated with still birth but Educational status and experience of obstetric complication were significant association with still birth.

In this study it is observed that factors like having complications of pregnancy & labor to current pregnancy contribute to poor perinatal outcome this finding was almost found to be a universal fact and has been revealed in many literatures and texts.

7. LIMITATION

Since the study was done in referral hospital it may not clearly show the real picture of still birth in the area.

Possible recall bias while determining the gestational age and birth interval.

As it was a cross sectional study it might be shared the limitation of cross sectional study.

8. CONCLUSION AND RECOMMENDATIONS

The rate of still birth among mothers who gave birth at Gondar University Hospital was high.

Still birth is still a major public health problem in this area.

Educational status and history of obstetric complication (history of prolonged labor, obstructed labor, pregnancy induced hypertension, APH, PROM) were significantly associated with still birth. Hence further enhancement of ANC, maternal care as well as early screening or identifying of PIH, APH, and PROM is very essential.

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ANNEXES

Information Sheet and Consent Form

Title of the Research Project

- prevalence and associated factors of still birth among women who gave birth at gondar university hospital amhara national regional, north west ethiopia.
- Name of Principal Investigator: worku mequannt
- Name of the Organization: University of Gondar, College of Medicine and Health Sciences, department of midwifery
- Name of the Sponsor: University of Gondar

Introduction

This information sheet and consent form is prepared with the aim of determining the magnitude of still birth and associated factors. The research group includes the principal investigator, two trained data collectors, one Supervisor and two advisors from University of Gondar.

Purpose of the Research Project

The aim this study is to determine the magnitude of still birth and associated factors. Assessing the prevalence and associated factors is very important to reduce perinatal mortality rate and achieve millennium development goals. The results of this study will be used to design appropriate intervention programs to address the prevalence and associated factors of still birth in Gondar town Amhara region North West Ethiopia 2014.

Procedure

The study involves all women's who came for giving Birth at Gondar university hospital. You are selected to be one of the study participants if you are willing to take part in this study and we kindly invite you to take part in our project. If you are willing to participate, we are so happy and we need you to clearly understand the aim of this

study and show your agreement .Finally you are kindly requested to give your genuine response in the interview.

Benefits, Risk and /or Discomfort

By participating in this research project you may feel some discomfort in wasting your time (a maximum of 10 min). However, your participation is definitely important to identify prevalence and associated factors of still birth to design appropriate strategy to improve perinatal outcome.

There is no risk or direct benefit in participating in this research project.

Incentives/Payments for Participating

You will not be provided any incentives or payment to take part in this project.

Confidentiality

The information collected from you will be kept confidential and stored in a file, without your name by assigning a code number to it. And hence no report of the study ever identifies you.

Right to Refusal or Withdraw

You have the full right to refuse from participating in this research. You have also the full right to withdraw from this study at any time you wish.

Person to contact

This research project will be reviewed and approved by the ethical committee of the University of Gondar. If you have any question you can contact any of the following individuals and you may ask at any time you want.

Annex –Questionnaire (English)

A Questionnaire prepared to collect data on prevalence and associated factors of still birth among women who gave birth at Gondar university hospital amhara national region, North West Ethiopia.

Questionnaire Number _____

Hello! Good morning/ evening?

My name is Sr. / Ato_____ I am working in this health institution.

Now I am a research team member of Gondar University. I am here today to collect data on prevalence and associated factors of still birth among women who gave birth at Gondar university hospital**.**The objective of this questionnaire is to see or identify prevalence and associated factors of still birth among women who gave birth at Gondar university hospital.We collect data from all mothers who came for giving birth. The questions are simple and focus only in your status, past obstetric and gynecologic history. I assure you that the study is confidential. I will not keep a record of your name and address. You have a right to stop the interview at any time, or to skip any question that you do not want to answer. By doing so you will face no other problem or the care that is given to you will not be

Changed in any form but your correct answer to the questions can make the study achieve the goals? Therefore, you are kindly requested to respond genuinely and voluntarily with patience.

The interview may take about 10 minutes.

Do you have any question?

Are you willing to participate in the interview?

[ ] Yes, Go to the next page

[ ] No, Thank them and interrupt the interview

Name and Sign of the consenting interviewer_____

Result of the interview: 1. Completed 2. Partially completed

3. The interviewee refused 4. Others_____

Supervisor's name_____ sign _____

Time interview started _____ Time interview Finished_____

Name of institution data collected_____

Date _____

Questionnaire - Part one – socio demographic characteristics of the mother

s.no	Questions	Response	Skip
001	Age the mother in years	…	…
002	Marital status	1. Married 3. Widowed 2. Divorced 4. Single- 5. Other----------	
003	Educational status	1. unable to read and write 2. Elementary 3. Secondary and above	
004	Religion	1. Orthodox 4. Catholic 2. Moslem 5. Other 3. Protestant	
005	Ethnicity	1. Amhara 3. Oromo 2. Tigre 4. Other _____	
006	Occupation	1. House wife 4. Self-employee 2. Governmental 3. Nongovernmental 6. Others, specify	
007	Income per month	1. Personal income [_ _] 3. Other means 2. Husband's [_ _ _ _] 4. Total [_.....	

Part two – past obstetric and gynecologic history

No	Question	Response	Skip
101	Gestation in weeks.	1. Pre term(<37)3. Post term(>42) 2. Term(37-42) 4. uk	
102	Inter pregnancy interval in months	[__ __ __]	
103	Parity	[__ __ __]	
104	Is the current pregnancy planned wanted)?	1. Yes 2. No	If no Skip to No 108
105	Does the current pregnancy have Complications?	1. Yes 2. No	If no Skip to No 111
106	If Yes, what type?	1. APH – 1 2. Poly hydraminos 3. Cervical incompetence 4. PIH 5. PROM 6. Multi fetal gestation 7. Other	

Part Three – Birth out comes and situation of current pregnancy

No	Question	Response	Skip
201	Does the current labor have any problem or complication?	1. Yes 2. No	If no Skip to 203
202	If yes , what type	1. Prolonged labor 2. Malposition 3. malpresentation 4. Obstructed labor 5. Otherspecify ____	
203	Method of delivery	1. Vaginal (with or without episiotomy) 2. Cesarean Section 3. Instrumental	
204	Is the child born alive?	1. Yes 2. No	
205	Sex of the baby	1. Male 2. Female	
206	Weight of baby in Gram	[__ __ __ __]	

Signature of supervisor _____

Date_____`

የ ማኪይቁ ቁጥር 2

ወደ ማኪይቁ ከ ማላፋችን በ ፊት ጥያቄ አለዎት

በ ጥና ቱ ለ ማሳ ተፍ ፈቃደኛ ነ ዎት

ሀ . አ ዎ ------ ይህ ን ካ ሉ ወደ ሜቋ ጥለ ውገ ጽ ይለ ፍ ፡ ፡

ለ . አ ይደ ለ ሁም-------- ይህ ን ካ ሉ አ ማሳ ግነ ው ማኪይቁን ያ ቋ ር ጡ ፡ ፡

ማኪይቁን የ ሞላ ው/የ ሞላ ችው ባ ለ ሜያ ስ ም----------

ፊ ር ማ----------

የ ማኪይቁ ውጤት

1. ሜሉ በ ሜሉ የ ተ ጠና ቀቀ
2. በ ከ ፊ ል የ ተ ጠና ቀቀ
3. ተ ጪ ያ ቂ ዋ ባ ለ ማኅ ሞ ሜ ታ ቸው ያ ል ተ ሞላ
4. ሌላ ይ ጠቀ ስ ----------
5. ማ ከየ ቁ ሞሞላ ት የ ተ ጀ ሚ በ ት ሰ ዓ ት ----------

ማ ከየ ቁ የ ተ ጠና ቀቀ በ ት ሠ ዓ ት

ማ ከየ ቁ የ ተ ሰ ራ በ ት ጤ ና ድ ር ጅ ት

ቀ ን ----------

Part one – Socio demographic Characteristics of The Mother

No	Questions	Response	Skip
001	ዕድሜ	(- -)	
002	የ ጋብቻ ሁኔ ታ	ያገ ባች - 1 የ ፈታች - 2 የ ሞተ ባት - 3 ያ ላገ ባች - 4 ሌላ ይጠቀስ -……..	
003	የ ትምህ ርት ደረ ጃ	ማን በብና ሜጳ ፍ የ ማትች ል -1 አ ንደኛ ደረ ጃ - 2 ሁለ ተኛ ደረ ጃ -3 ቴክ ኒ ክና ሙያ - 4 ከ ፍተ ኛ ትምህ ርት የ ተሚ ች/በ ሙር ላ ይ ያ ለ ች /-5	
004	ሃ ይማ ኖት	ኦ ር ቶ ዶክ ስ - 1 ፕ ሮቴ ስ ታን ት -2 ካ ቶ ሊክ - 3 ሙስ ሊም - 4 ሌላ ይጥ ቀሱ --------	
005	ብሔ ር	አ ሜራ ----1 ኦ ሮሞ----- 2	

		ጉራጌ ------3 ትግሬ ------4 ሌላ ይጥቀሱ ----------	
006	ስራ (ሞተዳደርያ)	የ ቤት እ ማኬት --- 1 ነ ጋዴ ----2 የ ቀን ሰራተኛ ------ 4 ስራ የ ሌላ ት ----------5 ሌላ ይጥቀሱ ----------	
007	ስራዎትን የ ሚሰሩት በ ተቀጣሪ ነ ት ወይስ በ ግል ነ ው	የ መንግስ ት ተቀጣሪ --------1 ግል ድር ጅት ተቀጣሪ -------2 መንግስ ታዊ ያልሆነ ድር ጅት ተቀጣሪ ----3 የ ግል ድር ጅት ባ ለ ቤት ---------- 4 ሌላ ይጥቀሱ ----------	
08	ወር ሃ ዊ ገ ቢዎት በ ብር ሲገ መት /ሲገ ለ ጽ /ስ ን ት ይሆና ል	የ ግልዎ (---------) የ ባ ለ ቤትዎ (----------) ሌላ ተጨሚ ገ ቢ (----------) ጡቅላ ላ ድምር (----------)	

Part Two – Past obstetric and gynecologic History

No	Question	Response	Skip
101	የእርግዝና እድሜበሳምንታት	(----------)	
103	በሂወት የተወለዱልጂ ብዛት	(----------)	
104	የአሁን እርግዝና ያቀዱት ወይም ፈልገውት የተከሰተነው	አዎ ---------- 1 አይደለም--------	
105	አሁን ባለዉእርግዝና ላይ ችግር አለ ወይ;	አዎ - ------ 1 አይደለ ም---------2	
106	አወካሉ ምን አይነት	…….. …….. …….	
107	ልጁሲወለድሂወት አለዉ	አዎ ---------- 1 አይደለም--------	
108	የልጁጾታ	ወንድ…….1 ሴት……2	
109	የልጁክብደት በግራም	……	

I, the undersigned, senior midwifery student declare that this thesis is my original work in partial fulfillment of the requirement for the degree of Master in clinical midwifery.

Name: _____

Signature: _____

Place of submission: department of midwifery, College of Medicine and Health Sciences, University of Gondar.

Date of Submission: _____

This thesis work has been submitted for examination with my/ our approval as university advisor(s).

Advisors

	Name	Signature
1.	_____	_____
2.	_____	_____